

### **REMARKS**

In view of the above amendments and following remarks, Applicant respectfully requests reconsideration of the present application. Prior to amendment herewith Claims 12-20, and 24-38 were pending in the application. By amendment herewith, Applicant has cancelled Claims 20 and 28, amended Claims 12-19, 24-27, and 29-38 and added new claims 39-42. Support for new claims 39-41 may be found in pending Claims 12, 19, and 24 and cancelled Claim 20.

Applicant acknowledges with appreciation the Examiner's withdrawal of the previous rejections under 35 U.S.C. § 102 and 103.

Preliminarily, Applicant notes that one aspect of this invention is particularly directed toward methods of providing plasma display panels. As noted on page 2, 2<sup>nd</sup> full paragraph of the application, one prior art method of depositing phosphors is to use a phosphor powder in a paste. As noted in the application, the use of such pastes is complicated and labor intensive. Applicant has unexpectedly and unobviously found that by employing a direct-write tool, such as a ink-jet device, one can obtain densely packed particles which are well packed and, upon deposition, form smooth features having a consistent line width. One also readily employs a particulate suspension of phosphor particles when using a direct-write tool.

In the present action, the Examiner has rejected all pending claims under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,100,633 by Okumura et al. ("Okumura") in combination with U.S. Patent No. 5,921,836 by Nanto et al. ("Nanto").

As noted by the Examiner, Okumura discloses phosphor particles that can be used in the production of plasma display panels. Okumura further discloses that the phosphor particles may be substantially spherical (Col. 4, lines 14-19), may have an average particle size of from 0.1  $\mu\text{m}$  to 20  $\mu\text{m}$  (Col. 6, lines 31-34), and may be dispersed in a paste, which may be deposited on the plasma display panel, such as by screen-printing, to form a phosphor layer (Col. 5, lines 5-11). As noted by the Examiner, Okumura does not disclose applying the phosphor particles via a direct-write tool that is controllable over an x-y axis.

Nanto discloses an apparatus for forming fluorescent layers on a plasma display panel (Title). Nanto discloses that the apparatus may be controllable in three directions (Col. 4, lines 49-56). The Examiner asserts that it would have been obvious for one skilled

in the art at the time the invention was made to modify the Okumura process by applying the phosphor material with the apparatus of Nanto with the expectation of achieving more precise control over the deposition pattern desired.

This rejection is respectfully traversed. A careful review of both Okumura and Nanto will demonstrate that Okumura and Nanto employ pastes not suspensions. See, for example, Okumura Col. 5, lines 5-10; Example 1, Col. 8, lines 40-48; and Example 1b, Col. 9, lines 20-25 and Nanto, Abstract; Col. 1, lines 47-57; and Col. 4, lines 16-25. Furthermore, although the Examiner states that the apparatus of Nanto may be controllable in three directions, nowhere within the four corners of Nanto is there any disclosure of a direct-write tool.

Nonetheless, Applicant has amended Independent Claims 12 and 24 to recite the claim limitation of cancelled claim 28, namely that the viscosity of the liquid being deposited is not greater than about 30 centipoise. Applicant respectfully submits that such amendment distinguishes the present invention from both Okumura and Nanto.

As noted above, Okumura contemplates the deposition of phosphor particles via screen printing. Pastes utilized in screen printing have a viscosity much greater than 30 centipoise to facilitate deposition of the paste.

Nanto also discloses the deposition of pastes utilizing a commercially available deposition means, such as a nozzle interconnected to a syringe (Col. 4, lines 40-48). Applicant respectfully submits that such apparatus would require a paste having a viscosity of greater than 30 centipoise. In this regard, Applicant notes that the inner diameter of the nozzle is about 100  $\mu\text{m}$  (Col. 4, lines 26-39). Such diameter is simply not typical of direct-write tools.

Applicant also notes that the paste composition of Nanto is a mixture of between 10-50 wt% of a fluorescent substance, 5 wt% ethyl cellulose and 45-85 wt% BCA (Col. 4, lines 16-19). Applicant submits that such a composition, as understood by the ordinary practitioner in the art, would necessarily have a viscosity of greater than 30 centipoise.

In any event, it is respectfully submitted that the combination of Okumura and Nanto would merely teach using pastes as known in the art, not suspensions.

In view of the foregoing, Applicant respectfully submits that the pending claims distinguish over both Okumura and Nanto and are thus allowable. Therefore, Applicant

respectfully requests allowance of all pending claims. In the event that the Examiner determines that any of the pending claims are not allowable, Applicant respectfully requests that the Examiner contact the undersigned to telephonically discuss the application or to arrange a formal interview.

As noted above, additional claims have been added to the present application. The fee (if any) for the additional claims (large entity) is calculated below:

For	Claims Remaining After Amendment	Highest Number Previously Paid For		Extra Claims	Rate		Additional Fee
Total Claims	26	- 24	=	0	x \$100	=	\$100
Independent Claims	4	- 4	=	0	x \$200	=	\$0
Multiple Dep. Claim	0	- 0	\$360			=	\$0
Total Fee						=	\$100

Applicant has enclosed \$100 for these additional claim fees. It is not believe that any other fess are due with this response. However, any necessary additional fees may be charged to Deposit Account No. 50-1419.

Respectfully submitted,

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